

APPLICATION FOR UNITED STATES LETTERS PATENT

For

METHOD AND SYSTEM AUTOMATICALLY TO SUPPORT MULTIPLE
TRANSACTION TYPES, AND TO DISPLAY SELLER-SPECIFIC TRANSACTIONS
OF VARIOUS TRANSACTION TYPES IN AN INTEGRATED, COMMINGLED
LISTING

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**METHOD AND SYSTEM AUTOMATICALLY TO SUPPORT MULTIPLE
TRANSACTION TYPES, AND TO DISPLAY SELLER-SPECIFIC
TRANSACTIONS OF VARIOUS TRANSACTION TYPES IN AN INTEGRATED,
COMMINGLED LISTING**

Related Application

[0001] This application is related to and hereby claims the priority benefit of the following provisional application for patent U.S. Provisional Application No. 60/297,665, filed June 11, 2001.

FIELD OF THE INVENTION

[0002] The present invention relates generally to the field of electronic commerce, and more specifically to a method and system for facilitating an electronic commerce transaction.

BACKGROUND OF THE INVENTION

[0003] More and more Internet users are realizing the ease and convenience of buying and selling online by way of person-to-person online trading pioneered by *eBay* Inc., the assignee of the present invention. As a result, collectors, hobbyists, small dealers, unique item seekers, bargain hunters, and other consumers, are able to buy and sell millions of items at various online shopping sites.

[0004] The success of an online shopping site depends upon its ability to provide an enjoyable shopping experience and an easy-to-use environment in which buyers and sellers can conduct business efficiently. Current online shopping sites have certain limitations in the manner in which they present information to users. With reference to FIG. 1, a typical item listing will briefly be described. A textual list of items 105

representing the results of a user query is presented within a web page format 100 to the user (e.g., a prospective buyer) on his/her computer system. In this example, the web page format 100 presented to the prospective buyer includes items 110 that are currently available for sale on a particular page 170 within a particular category. Each item 110 includes a hypertext link 115 having a title (or brief description) of the item for sale, an indication 120 of whether or not an image of the item is available, the current minimum bid 130, the number of bids received 140, and an auction ending time 150. Based upon the item titles, prospective buyers can decide whether or not to view more detailed information on a particular item. In order to view detailed information on a particular item of interest, the buyer is required to select the hypertext link 115 associated with the item. A new page is then presented with more detailed information regarding the item selected. The more detailed information may include, among other things, the item's starting price, a username associated with the seller of the item, a username associated with the current high bidder, a detailed description of the item in text or HTML format, and an image the seller has associated with the item, for example.

SUMMARY OF THE INVENTION

[0005] According to one aspect of the invention, there is provided a method to facilitate a transaction by a network-based transaction facility. In one embodiment, the method includes receiving a request from a buyer accessing the network-based transaction facility to view offerings that are offered for sale via the network-based transaction facility. The method further includes responding to the request by retrieving information concerning a plurality of offerings , wherein the plurality of offerings include a first offering of a first

transaction type and a second offering of a second transaction type. Further, the method includes integrating information concerning the first and second offerings into a commingled list and causing the display of the commingled list to the buyer.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] The present invention is illustrated by way of example and not limitation in the figures of the accompanying drawings, in which like references indicate similar elements and in which:

[0007] **Figure 1** illustrates an exemplary user interface that contains a listing of offerings that are the subjects of commerce transactions.

[0008] **Figure 2** is a block diagram illustrating an exemplary network-based transaction facility in the form of a network-based auction facility 10.

[0009] **Figure 3** is a database diagram illustrating an exemplary database, maintained and accessed via a database engine server, which at least partially implements and supports the auction facility.

[0010] **Figure 4** is a representation of an item table, according to an exemplary embodiment of the present invention.

[0011] **Figure 5** is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of displaying a commingled of items.

[0012] **Figure 6** illustrates an exemplary user interface that contains a hyperlink to a user interface from which a Buyer can choose a Seller's virtual store

[0013] **Figure 7** illustrates an exemplary user interface that contains a listing of Seller virtual stores in a network based commerce facility.

[0014] **Figure 8** illustrates an exemplary user interface that contains a listing of Seller virtual stores, where the listing is based on a category (e.g. Real Estate) of Seller virtual stores.

[0015] **Figure 9** illustrates an exemplary user interface that contains a listing of offerings for a specific Seller's virtual store, where the listing is commingled list of items of multiple transaction types.

[0016] **Figure 10** is a flow chart illustrating a method according to an exemplary embodiment of the present invention, of displaying a commingled list of items offered by a specific Seller's virtual store, where the commingled listing of items meet a Buyer's search criteria.

[0017] **Figure 11** illustrates an exemplary user interface with a commingled listing of items offered by a specific Seller's virtual store, where the commingled listing of items meet a Buyer's search criteria.

[0018] **Figure 12** is a flow chart illustrating a method according to an exemplary embodiment of the present invention, of displaying a commingled list of items offered at a Seller's virtual store, where the commingled list may be filtered so that only items

which meet a specific transaction type (e.g. Auction Items, Fixed Price Items) are displayed.

[0019] **Figure 13** illustrates an exemplary interface where a Buyer has selected "View Buy It Now Items" from the interface 900 of Figure 9.

[0020] **Figure 14** is a flow chart illustrating a method according to an exemplary embodiment of the present invention, of displaying a commingled of items offered at a Seller's virtual store, where the items are sorted according to a specific criteria (e.g. price).

[0021] **Figure 15** is a diagrammatic representation of a machine in the exemplary for the computer system within which a set of instructions for causing machine to perform any one of the methodologies of the invention may be executed.

DETAILED DESCRIPTION

[0022] A method and system automatically to support multiple transaction types, and to display seller-specific transactions of various transaction types in an integrated, commingled listing are described. In the following description, for purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of the present invention. It will be evident, however, to one skilled in the art that the present invention may be practiced without these specific details.

Terminology

[0023] For the purposes of the present specification, the term "transaction" shall be taken to include any communications between two or more entities and shall be construed to include commercial transactions including sale and purchase transactions, auctions and the like. The term "offering" shall be taken to include any products, services or goods that are made available for purchase, or offered for sale. While an exemplary embodiment of the present invention is discussed below with reference to "items", it will be appreciated that the present invention is not so limited.

Transaction Facility

[0024] Figure 2 is block diagram illustrating an exemplary network-based transaction facility 10. While an exemplary embodiment of the present invention is described within the context of a transaction facility, the invention will find application in many different types of computer-based, and network-based, commerce facilities.

[0025] The transaction facility 10, in an exemplary embodiment, includes one or more of a number of types of front-end servers that each include at least one Dynamic Link Library (DLL) to provide certain functionality. Page servers 12 deliver web pages (e.g., markup language documents), picture servers 14 dynamically deliver images to be displayed within Web pages, listing servers 16 facilitate category-based browsing of offerings, search servers 20 that handle search requests to the facility 10 and facilitate keyword-based browsing of offerings, and CGI or ISAPI servers 18 provide an intelligent interface to the back-end of facility 10. E-mail servers 21 provide, *inter alia*, automated e-mail communications to users of the facility 10.

[0026] The page servers 12, picture servers 14, CGI/ISAPI servers 18, search servers 20, e-mail servers 21 and database engine server 22 may individually, or in combination, act

as a communication engine to facilitate communications between, for example, the client machine 32 and the network-based transaction facility 10. In addition, the page servers 12, picture servers 14, CGI/ISAPI servers 18, search servers 20, e-mail servers 21 and database engine server 22 may individually, or in combination, act as a transaction engine to facilitate transactions between, for example, the client machine 32 and the network-based transaction facility 10. Furthermore, the page servers 12, picture servers 14, CGI/ISAPI servers 18, search servers 20, e-mail servers 21 and database engine server 22 may individually, or in combination, act as a display engine to facilitate the display of items between, for example, the client machine 32 and the network-based transaction facility 10.

[0027] The back-end servers include a database engine server 22, a search index server 24 and a credit card database server 26, each of which maintains and facilitates access to a respective database.

[0028] The Network-based transaction facility 10 may be accessed by a client program 30, such as a browser (e.g., the Internet Explorer distributed by Microsoft Corp. of Redmond, Washington) that executes on a client machine 32 and accesses the facility 10 via a network such as, for example, the Internet 34. Other examples of networks that a client may utilize to access the transaction facility 10 include a wide area network (WAN), a local area network (LAN), a wireless network (e.g., a cellular network), or the Public Switched Telephone Network (PSTN) network.

Database Structure

[0029] Figure 3 is a database diagram illustrating an exemplary database 23, maintained by and accessed via the database engine server 22, which at least partially implements and

supports the transaction facility 10. In the exemplary embodiment, the database engine server 22 maintains two databases 23_a and 22_b, a first database 23_a being maintained for offering information that is not included within a virtual “store” according to the present invention, with a second database 23_b storing offering information for offerings that are presented via virtual “stores”. The structure of these databases 23_a and 22_b are substantially the same, but differ in that the tables of the “store” database 23_b may include a number of additional fields to facilitate the virtual stores. A general discussion of the basic structure of a database 23 is presented below, this being applicable to both databases 23_a and 22_b.

[0030] The database 23 may, in one embodiment, be implemented as a relational database, and includes a number of tables having entries, or records, that are linked by indices and keys. In an alternative embodiment, the database 23 may be implemented as collection of objects in an object-oriented database.

[0031] Central to the database 23 is a user table 40, which contains a record for each user of the transaction facility 10. A user may operate as a seller, buyer, or both, within the transaction facility 10. The database 23 also includes items tables 42 that may be linked to the user table 40. The items tables 42 may include a seller items table 44 and a bidder items table 46. A user record in the user table 40 may be linked to multiple items that are being, or have been, auctioned or otherwise offered for sale via the facility 10. A link indicates whether the user is a seller or a bidder (or buyer) with respect to items for which records exist within the items tables 42.

[0032] The database 23 also includes one or more category tables 47. Each record within the category table 47 describes a respective category. In one embodiment, a specific

category table 47 describes multiple, hierarchical category structures, and includes multiple category records, each of which describes the context of a particular category within the one of the multiple hierarchical category structures. For example, the category table 47 may describe a number of real, or actual, categories to which item records, within the items tables 42, may be linked.

[0033] The database 23 also includes a note table 48 populated with note records that may be linked to one or more item records within the items tables 42 and/or to one or more user records within the user table 40. Each note record within the table 48 may include, *inter alia*, a comment, description, history or other information pertaining to an item being auction via the transaction facility 10, or to a user of the transaction facility 10.

[0034] A number of other tables are also shown to be linked to the user table 40, namely a user past aliases table 50, a feedback table 52, a feedback details table 53, a bids table 54, an accounts table 56, an account balances table 58 and a transaction record table 60.

[0035] Figure 4 is a diagrammatic representation of an items table 42, according to an exemplary embodiment of the present invention. The items table 42 is shown to define a number of fields for each record that describes an item being offered for sale via the transaction facility 10. A sale type field 62 records the type of item (e.g., auction, fixed-price). In one embodiment, the type of item indicates a price-setting process via which a price for the relevant items may be established. Also, a storefront flag field 64 designates whether an item in the network-based transaction facility 10 is offered at a Seller's virtual store.

[0036] Fig. 5 is a flow chart illustrating a method 70, according to an exemplary embodiment of the present invention, of locating and displaying a plurality of items offered by a Seller where the items are of a plurality of transaction types. In the exemplary method 70, the presentation of the commingled list is the presentation of the commingled list on a user graphical interface. The plurality of items available are recorded within the items table 42 of the database 23.

[0037] The plurality of items includes a first offering of a first transaction type and a second offering of a second transaction type. The first transaction type implements a first price setting process and the second transaction type implements a second price setting process. At least one of the first and second price-setting processes includes a fixed price-setting process, an auction price-setting process, and a hybrid auction/fixed price-setting process.

[0038] The fixed price-setting process provides items with a price that does not change after listing, and which allows buyers to purchase quantities of the item instead of going through an auction process. The initial quantity of a fixed-priced item can be one or more. The auction price-setting process allows multiple users (e.g., Buyers) to bid on items for a fixed period of time after which the user with the highest bid may buy the item at a submitted bid price. The hybrid auction/fixed price setting process allows a Buyer to purchase an item at a fixed price before an initial bid can be placed on an item. Buy It Now items (BIN) are items in an auction that have a quantity of one, but also have both an initial bid amount and a BIN amount. Before any bids are placed on an item, a buyer can go through the BIN process to immediately end the auction and win the item

by agreeing to pay the BIN price. If a buyer bids on the auction, the item converts to a normal auction and no longer has a BIN price or allows a BIN process.

[0039] Returning now specifically to the flow chart, at block 71, the network-based transaction facility 10 receives a buyer's request to view the items in a seller's virtual store. Figure 6 illustrates an exemplary user interface that includes a "Stores" portion. If selected the "Stores" portion 601 provides the user with an interface which allows users to select a seller's virtual store from a listing of featured stores or from listing of stores provided according to category (e.g. books, antiques). In response to a Buyer selecting "Stores" from the exemplary interface provided in Figure 6, the exemplary interface 700 of Figure 7 is provided. Figure 7 illustrates an exemplary user interface that allows a user to select a seller's virtual store from a listing of featured stores 701 or from listings of stores provided according to category 702. A Buyer may select a featured store 701 or select a category 702 of stores to view. Upon choosing a category 702 of stores (e.g. Real Estate) the Buyer is further provided with an interface displaying a list of stores based on the category selected. Figure 8 illustrates an exemplary interface 800 at which a listing of stores based on a category is chosen. The Buyer may select a specific Seller's virtual store from the interface 800 of Figure 8.

[0040] The Seller's virtual store may consist of multiple items of multiple transaction types (e.g. fixed price-setting process, auction price-setting process, or hybrid auction/fixed price setting process). The Seller's virtual store items are items listed by virtual store owner (e.g., Seller). Figure 9 illustrates an exemplary interface 900 of a Seller's virtual store according to one embodiment. The Seller's virtual store interface 900 has a different display from the core listings (e.g. network based auction home page).

There is a Store logo 901 and Store name 902 on top of every Store specific listings page.

All the branding bar tabs for each Seller's virtual store is constructed and displayed on the top of the Stores listings page.

[0041] Returning now specifically to the flow chart, at block 72, responsive to the Buyer selecting a Seller's virtual store, a look-up is performed within the database 23, and specifically on the items table 42, to obtain a title and other details (e.g. transaction type, price) regarding one or more items that are available at the Seller's virtual store selected by the Buyer. The items which are offered at the Seller's virtual store may be of multiple transaction types.

[0042] After locating an item, at block 73 the item is retrieved. Retrieving the item includes retrieving additional information (e.g. title, description, price, end of auction time, thumbnail image, number of bids, applicable icons) associated with the item. As the items of multiple transaction types are retrieved, at block 74 they are integrated into a commingled list. The list is known as a commingled list because the items may be of multiple transaction types. At block 75, a determination is made as to whether the end of the items table 42 in the database 23 has been reached. Following a negative determination at decision block 75, the method 70 loops back to block 72 and the search of the items table 42 in the database 23 for items being offered by the Seller's virtual store continues.

[0043] On the other hand, following a positive determination at decision block 75, the method proceeds to block 76, where a commingled list is displayed for the buyer on a user graphical interface. Referring briefly back to Figure 9, an exemplary embodiment of a commingled listing of items 903 in a Seller's virtual store interface 900 is provided.

[0044] The Buyer may reduce the number of items in the commingled list by requesting that only items which meet a certain search criteria are to be displayed. Also, the Buyer may request to display only those items in the commingled list, which meet a specific transaction type (e.g. Auction Items, Fixed Price Items). Furthermore, the Buyer may sort the commingled list (e.g. according to price). The exemplary interface 900 illustrated in Figure 9 includes a "Search" portion 904, an "All Items" portion 905, a "View Auction Items" portion 906, "View Buy It Now Items" portion 907, a Price portion 908, an End Time portion 909, and a Bids portion 910. The commingled list of items 903 may exist on multiple pages where each page will display a variable number of items included in the commingled list. In an exemplary embodiment, each page may include as many as 50 items per page.

[0045] Figure 10 is a flow chart illustrating a method 110, according to an exemplary embodiment of the present invention, of displaying a commingled of items offered at a Seller's virtual store, where the items offered meet a search criteria provided by the Buyer. The method 110 shall be described within the context of the exemplary user interface 900 shown in Figure 9.

[0046] At block 111, the network based auction facility 10 accepts a search criteria from a buyer, where the Buyer is attempting to search for items which meet a specific search criteria in a specific Seller' virtual store. At interface 900, the search criteria are entered at a "Search" portion 904. In an exemplary embodiment of the invention, at block 112, the items table 42 of the Stores database 23 is searched for items in the Specific Seller's virtual store that meet the search criteria provided by the buyer. The keywords would be used to search the Seller's virtual store by item title or item description. Items located in

the Items table 42 of the Database 23 which belong to the Seller are further inspected to determine if they meet the search criteria entered by the Buyer. At block 113, the search returns a list of all items offered by the Seller's virtual store and displays the items at the Buyer's interface. Figure 11 illustrates an exemplary interface 1100 with a commingled listing of items 1101 offered by a specific Seller's virtual store, where the commingled listing of items meet a Buyer's search criteria.

[0047] Figure 12 is a flow chart illustrating a method 120, according to an exemplary embodiment of the present invention, of displaying a commingled of items offered at a Seller's virtual store, where the commingled list may be filtered so that only items which meet a specific transaction type (e.g. Auction Items, Fixed Price Items) are displayed. The method 121 shall be described within the context of the exemplary user interface 900 shown in Figure 9 as generated by the method 70 described above with reference to Figure 5.

[0048] At block 121, the network based auction facility 10 receives a buyer's request to view the items in a seller's virtual store. At block 122, as described above by the method 70 with reference to Figure 4, a commingled list of items 903 offered by the Seller's virtual store is provided at the Buyer's graphical user interface.

[0049] In an exemplary embodiment of the invention, at block 123, a Buyer may select "View Auction Items" 906 or "View Buy It Now Items" 907 to view only those items in the commingled list that meet a specific transaction type (e.g. Auction Items, Fixed-Price Items). In the exemplary method, at block 124, if the Buyer selects "View Auction Items" a lookup of the items table 42 in the database 23 is performed and all auction items offered at the Seller's store are displayed for the Buyer. The Buyer may select

"View All Items" to return to the commingled list of all items displayed at the interface

900 of Figure 9.

[0050] In the exemplary method, at block 125, if the Buyer selects "View Buy It Now Items" 907, a lookup of the items table 42 in the database 23 is performed and all fixed price items and auction items which have a fixed-price option before bidding has begun on the item will be displayed for the Buyer in a commingled list. If the item is only being offered at a fixed-price there will be no end time listed. However, if the item is an item that becomes an auction item after a first bid is entered, it will have an end time listed.

Figure 13 illustrates an exemplary interface 1301 (?) where a Buyer has selected "View Buy It Now Items" from the interface 900 of Figure 9. The Buyer may select "View All Items" 1301 to return to the commingled list of all items displayed at the interface 900 of Figure 9. The Buyer may further enter a keyword search after selecting the "View Auction Items" option or the "Buy It Now Items" option to view only those items that meet search word criteria.

[0051] Figure 14 is a flow chart illustrating a method 150, according to an exemplary embodiment of the present invention, of displaying a commingled of items offered at a Seller's virtual store, where the items are sorted according to a specific criteria (e.g. price). The method 150 shall be described within the context of the exemplary user interface 900 shown in Figure 9 as generated by the method 70 described above with reference to Figure 5.

[0052] At block 151, the network based auction facility 10 receives a buyer's request to view the items in a seller's virtual store. At block 152, as described above by the method

70 with reference to Figure 5, a commingled list of items 903 offered by the Seller's virtual store is provided at the Buyer's graphical user interface.

[0053] In an exemplary embodiment of the invention, at block 153, a Buyer may select a sort criteria (e.g. Price, Bids, End Time). At block 124, the commingled list will be displayed according to the sort criteria selected.

[0054] The above-described embodiment of the present invention assumes a central network-based auction facility 10 that maintains a central database 23 of users and offerings. It will however be appreciated that the present invention may also be applied to a peer-to-peer trading system implemented as applications executing on distributed computer systems that communicate via a network. In this case, the methods 70, 110, 120, and 150 discussed above with reference to 4, 8, 9, and 12 may be executed, for example, by an application program residing on a computer system of a seller.

[0055] Further, while the exemplary embodiment of the present invention has been discussed within the context of the network-based auction facility 10, the teachings of the present invention may be implemented within any network-based transaction system whereby transactions for the purchase and/or sale of an offering are concluded between two or more parties

Software

[0056] Figure 15 shows a diagrammatic representation of a machine in the exemplary form of a computer system 300 within which a set of instructions, for causing the machine to perform any one of the methodologies discussed above may be executed. In alternative embodiments, the machine may comprise a network router, a network switch, a network bridge, Personal Digital Assistant (PDA), a cellular telephone, a web appliance

or any machine capable of executing a sequence of instructions that specify actions to be taken by that machine.

[0057] The computer system 300 includes a processor 302, a main memory 304 and a static memory 306, which communicate with each other via a bus 308. The computer system 300 may further include a video display unit 310 (e.g., a liquid crystal display (LCD) or a cathode ray tube (CRT)). The computer system 300 also includes an alpha-numeric input device 312 (e.g., a keyboard), a cursor control device 314 (e.g., a mouse), a disk drive unit 316, a signal generation device 320 (e.g., a speaker) and a network interface device 322

[0058] The disk drive unit 316 includes a machine-readable medium 324 on which is stored a set of instructions (i.e., software) 326 embodying any one, or all, of the methodologies described above. The software 326 is also shown to reside, completely or at least partially, within the main memory 304 and/or within the processor 302. The software 326 may further be transmitted or received via the network interface device 322. For the purposes of this specification, the term "machine-readable medium" shall be taken to include any medium that is capable of storing or encoding a sequence of instructions for execution by the machine and that cause the machine to perform any one of the methodologies of the present invention. The term "machine-readable medium" shall accordingly be taken to include, but not be limited to, solid-state memories, optical and magnetic disks, and carrier wave signals.

[0059] Thus, a method and system automatically to remind parties to a network-based transaction to comply with obligations established under a transaction agreement have been described. Although the present invention has been described with reference to

specific exemplary embodiments, various modifications and changes may be made to these embodiments without departing from the broader spirit and scope of the invention. Accordingly, the specification and drawings are to be regarded in an illustrative rather than a restrictive sense.